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Attention: **USPTO**
Mail Stop Appeal Brief-Patents

From: Paul R. Katterle

Examiner: Ryan A. Jarrett
Art Unit 2125
Fax number: 571-273-8300

Fax number: 440-585-7578

No. pages incl. this cover sheet: 19

Telephone number: 440-585-7968

Date: November 15, 2006

MESSAGE:

Re: **U.S. Patent Application Serial No. 10/699,104**
Entitled: SYSTEM AND METHOD FOR INTEGRATING TRANSACTIONAL AND REAL-TIME MANUFACTURING DATA

Attached, please find a Twice Amended Appeal Brief (18 pages).

Respectfully submitted,

Paul R. Katterle

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office at (571) 273-8300 on the date indicated below.

Signature of Person Making Facsimile Transmission

November 15, 2006 Paul R. Katterle
Date Printed Name of Person

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Deia Salah-Eldin Bayoumi et al.

Assignee: ABB Research Ltd.

Serial. No.: 10/699,104 Group Art Unit: 2125

Filed: October 31, 2003 Confirmation No. 1874

Title: SYSTEM AND METHOD FOR INTEGRATING TRANSACTIONAL AND REAL-TIME MANUFACTURING DATA

Examiner: Ryan A. Jarrett Docket No.: B030280

TWICE AMENDED APPEAL BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to a Notice of Non-Compliant Appeal Brief dated October 25, 2006, Applicant submits the following Twice Amended Appeal Brief. Please charge any additional fees that may be required for filing the Amended Appeal Brief to our Deposit Account No. 050877.

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office at (571) 273-8300 on the date indicated below.

Paul R. Katterle
Signature of Person Making Facsimile Transmission

November 15, 2006 Paul R. Katterle
Date Name

(1) Real Party in Interest

The real party in interest is ABB Research Ltd.

(2) Related Appeals and Interferences

None.

(3) Status of Claims

The present application as filed included claims 1-20. In response to an Office action dated September 8, 2004 claims 1, 2, 3, 5, 9, 10, 12-15, 17 and 18 were amended in an amendment dated February 8, 2005. In response to a final Office action dated March 31, 2005, claims 1-20 were canceled and new claims 21-36 were added in an amendment dated August 1, 2005, which was entered upon the filing of a Request for Continued Examination on August 1, 2005. In response to the final Office action dated January 20, 2006 (to which this Appeal is directed), claim 30 was amended and claims 31-36 were canceled in an amendment dated May 18, 2006. The current status of the claims is as follows:

Claims 21-30 are pending;

Claims 1-20 and 31-36 are canceled; and

Claims 21-30 are appealed.

(4) Status of Amendments

As noted in the Advisory Action dated June 16, 2006, the amendment after final dated May 18, 2006 has been entered.

(5) Summary of Claimed Subject Matter

For the convenience of the Board, copies of Figs. 1 and 2 from the subject application are enclosed herewith.

Independent claim 21 is directed to a method for controlling a machine (136) that is operable to manufacture an electrical device. As described in paragraph **[0016]** (page 4, lines 8-16) of the specification, a store of transactional data (130) relating to electrical devices is provided. As set forth in paragraph **[0017]** (page 4, lines 17-25) of the specification, a store of design data (128) for electrical devices is also provided. As described in paragraph **[0025]** (page 6, lines 17-34) and paragraph **[0027]** (page 7, lines 8-14) of the specification, information from the store of transactional data (130) is retrieved, and based on this retrieved information, a list of electrical devices that need to be manufactured is produced. As set forth in paragraph **[0028]** (page 7, lines 15-20) of the specification, a particular electrical device that needs to be manufactured is selected from the list and design data for this particular electrical device is retrieved from the store of design data (128). As set forth in paragraph **[0025]** (page 6, lines 17-34) and paragraph **[0029]** (page 7, lines 21-25) of the specification, control data for controlling the machine (136) is generated using the design data and is transmitted to the machine (136). As set forth in paragraph **[0025]** (page 6, lines 17-34), paragraph **[0030]** (page 7, lines 26-31) and paragraph **[0031]** (page 7, lines 32-34) of the specification, real-time information concerning the manufacture of the particular electrical device is received from the machine (136), and the store of transactional data (130) is updated to reflect the received real-time information.

Independent claim 30 is directed to a method for manufacturing an electrical device in a facility. As set forth in paragraph **[0021]** (page 5, lines 22-

26) of the specification, a machine (136) that is operable to manufacture electrical devices is provided. As set forth in paragraph **[0015]** (page 4, lines 1-7) of the specification, an order server (120) that is connected by a network (124) to a data exchange server (126) is provided. As set forth in paragraph **[0016]** (page 4, lines 8-16) of the specification, an enterprise resource planning (ERP) server(130) for storing and providing access to transactional data relating to electrical devices is provided. The ERP server (130) is connected to the data exchange server (126), as is shown in Fig. 1. A design data server (128) for storing and providing access to design data for electrical devices is provided, as is described in paragraph **[0017]** (page 4, lines 17-25) of the specification. As is described in paragraphs **[0014]** (page 3, lines 23-31), **[0015]** (page 4, lines 1-7) and **[0022]** (page 5, lines 27-34) of the specification, an order is received for a particular electrical device in the order server (120) and is transmitted over the network (124) to the data exchange server (126). Information from the ERP server (130) is retrieved to determine whether the facility can manufacture the particular electrical device, as is described in paragraph **[0015]** (page 4, lines 1-7) of the specification. If the facility can manufacture the particular electrical device, design data is retrieved for the particular electrical device from the design data server (128), as described in paragraph **[0028]** (page 7, lines 15-20) of the specification. As set forth in paragraph **[0025]** (page 6, lines 17-34) and **[0029]** (page 7, lines 21-25) of the specification, control data for controlling the machine (136) is generated using the design data and is transmitted to the machine (136). As set forth in paragraph **[0025]** (page 6, lines 17-34), paragraph **[0030]** (page 7,

lines 26-31) and paragraph **[0031]** (page 7, lines 32-34) of the specification, real-time information concerning the manufacture of the particular electrical device is received from the machine (136), and the ERP server (130) is updated to reflect the received real-time information.

(6) Grounds of Rejection to be Reviewed on Appeal

Whether claims 21-30 are obvious under 35 U.S.C. §103(a) in light of U.S. Patent Application Publication No. US 2003/0014500A1 to Schleiss et al. in view of U.S. Patent No. 5,946,210 to Montminy et al.

(7) Argument

The Group of Claims 21-30

Applicant submits that claims 21-30 are not obvious under 35 U.S.C. §103(a) in light of the Schleiss et al. application in view of the Montminy et al. patent because the Schleiss et al. application and the Montminy et al. patent individually and in combination fail to show or suggest all of the limitations of the claims, as is required by established case law. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). As set forth in the Manual of Patent Examining Procedure (MPEP), Section 2143, there are three requirements for establishing a prima facie case of obviousness, namely: (1.) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2.) there must be a reasonable expectation of success; and (3.) the prior art reference (or references when combined) must teach or suggest all the claim limitations. Since the Schleiss et al. application and the Montminy et

al. patent fail to teach or suggest all of the claims limitations of independent claims 21 and 30 and, thus, dependent claims 22-29, Applicant submits that the Examiner has failed to establish a prima facie case of obviousness.

Generally, the Schleiss et al. application and the Montminy et al. patent fail to disclose: (1). generating and transmitting ***control data*** for controlling a machine that manufactures an electrical device; and (2.) updating a store of transactional data with real-time information ***about the manufacture of the electrical device***. These two provisions and the deficiencies of the references are discussed in more detail below.

I. Generating and Transmitting Control Data

Independent claims 21 and 30 each recite:

> "using said design data to generate control data for controlling said at least one machine to manufacture said particular electrical device;"
>
> "transmitting said control data to said at least one machine;"

Ostensibly, the Examiner cites paragraph [0050] of the Schleiss et al. application as disclosing the foregoing two steps of the claimed methods. Paragraph [0050], however, merely discloses creating or scheduling a batch campaign and transmitting information about the batch campaign to a process control system 36. A batch campaign is a series of batches for producing chemical products, such as pharmaceutical products. As set forth in lines 7 and 8 of paragraph [0050], batch campaign information may include batch

identification, recipe, number of batches required, etc. Clearly this type of information is not control data for controlling equipment, let alone control data for controlling a machine that manufactures an electrical device. Moreover, the batch campaign information in the Schliess et al. application is transmitted to the process control system 36 and not to process equipment for producing the chemical products. As shown in Fig. 2 of the Schliess et al. application, the process control system 36 is located remotely from the field devices 125-139, which control the process equipment. Thus, Applicant submits that the Schleiss et al. application fails to show or suggest the foregoing two steps of independent claims 21 and 30 and, thus, dependent claims 22-29.

In column 11, lines 4-12, the Montminy et al. patent discloses generating an assembly instruction file for manufacturing a converter. This assembly instruction file includes a bill of material, specifications, component location, etc. The Montiminy et al. patent, however, does not disclose using this instruction file to generate control data for controlling a machine that manufactures the converter. Thus, the Montiminy et al. patent also fails to show or suggest the foregoing two steps of independent claims 21 and 30 and, thus, dependent claims 22-29.

II. Updating a Store of Transactional Data

Independent claim 21 recites the steps of:

> "receiving real-time information concerning the manufacture of said particular electrical device from said at least one machine; and

updating said store of transactional data to reflect said received real-time information"

Similarly, independent claim 30 recites the steps of

"receiving real-time information concerning the manufacture of said particular electrical device from said at least one machine; and

"updating said transactional data in said ERP server to reflect said received real-time information.

In the above-recited steps, the term "transactional data" means data relating to the business aspects of an enterprise, such as sales, planning, supply, etc. This meaning is clearly shown in lines 1-4 of paragraph [0016] of the specification of the subject application, which read:

"ERP server 130 is an ERP business application server that provides access to transactional data such as, for example, sales, bills of material, planning, manufacturing routing, inventory, and procurement data."

In the Schleiss et al. application, the term "transactional data" has a different meaning. Paragraph [0006] of the Schleiss et al. application reads, in part:

"Transactional data, on the other hand, is event driven and is typically generated infrequently in an asynchronous manner. One type of transactional data frequently used within a process control system is device generated alert or alarm information."

Thus, as used in the Schleiss et al. application, the term "transactional data" broadly means asynchronous data.

The Examiner cites paragraphs [0006], [0023], [0035], [0038] and [0054] of the Schleiss et al. application as showing the foregoing steps of independent claims 21 and 30 relating to updating a store of transactional data concerning the manufacture of an electrical device. The paragraphs cited by the Examiner, however, only generally discuss the mechanics of communicating transactional data (asynchronous data) within an enterprise. An exemplary disclosure from these paragraphs can be found in paragraph [0038], which reads:

> "In particular, the transactional data communications technique described herein wraps or encapsulates transactional process control data such as, for example, alarm and event information, process condition information, equipment condition information, etc., using an XML schema that can be easily conveyed between different devices, components and systems within the enterprise, regardless of whether the communications use the Internet, a LAN or any other communication media and technology."

None of the paragraphs in the Schleiss et al. application cited by the Examiner disclose updating a store of transactional data (business data) to reflect real-time data *about the manufacture of a product*, let alone an electrical product. Thus, Applicant submits that the Schleiss et al. application fails to show or suggest the foregoing steps of independent claims 21 and 30 and, thus, dependent claims 22-29.

The Montminy et al. patent does not disclose any communication from a manufacturing machine to a store of transactional data. Thus, the Montiminy et al. patent also fails to show or suggest the foregoing two steps of independent claims 21 and 30 and, thus, dependent claims 22-29.

For at least the reasons set forth above, Applicant submits that the Examiner has failed to establish a prima facie case of obviousness and that claims 21-30 are not obvious under 35 U.S.C. §103(a) in light of the Schleiss et al. application in view of the Montminy et al. patent . Favorable consideration of this appeal, and reversal of the rejection of claims 21-30 is respectfully requested.

Respectfully submitted,

ABB Research Ltd.

By: _____
Paul R. Katterle, Reg. No. 36563

November 15, 2006
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(8) CLAIMS APPENDIX

Copy of Claims on Appeal

21. A method for controlling at least one machine operable to manufacture electrical devices, said method comprising the steps of:

providing a store of transactional data relating to electrical devices;

providing a store of design data for electrical devices;

retrieving information from said store of transactional data;

producing a list of electrical devices that need to be manufactured based on said information retrieved from said store of transactional data;

selecting from said list a particular electrical device that needs to be manufactured by said at least one machine;

retrieving design data for said particular electrical device from said store of design data;

using said design data to generate control data for controlling said at least one machine to manufacture said particular electrical device;

transmitting said control data to said at least one machine;

receiving real-time information concerning the manufacture of said particular electrical device from said at least one machine; and

updating said store of transactional data to reflect said received real-time information.

22. The method of claim 21 further comprising:

transmitting order information for electrical devices over a network; and

updating said store of transactional data using said transmitted order information.

23. The method of claim 22, wherein said transmitting of said order information is over the Internet.

24. The method of claim 21, wherein said design data comprises electronic drawings.

25. The method of claim 21, wherein said information retrieved from said store of transactional data includes data relating to scheduling of multiple processes for manufacturing said particular electrical device.

26. The method of claim 25, wherein said particular electronic device is an electrical transformer.

27. The method of claim 26, wherein said information retrieved from said store of transactional data includes data relating to scheduling of winding, tank fabrication and processing.

28. The method of claim 21, wherein said realtime information received from said at least one machine includes completion of an intermediary

component of said particular electrical device or the end of a process in the manufacture said intermediary component.

29. The method of claim 21, wherein said at least one machine comprises a plurality of machines.

30. A method for manufacturing an electrical device in a facility, said method comprising:

providing at least one machine operable to manufacture electrical devices;

providing an order server connected by a network to a data exchange server;

providing an enterprise resource planning (ERP) server for storing and providing access to transactional data relating to electrical devices, said ERP server being connected to said data exchange server;

providing a design data server for storing and providing access to design data for electrical devices;

receiving an order for a particular electrical device in said order server;

transmitting said order over said network to said data exchange server;

retrieving information from said ERP server;

determining from said retrieved information whether said facility can manufacture said particular electrical device;

if said facility can manufacture said particular electrical device, retrieving design data for said particular electrical device from said design data server;

using said design data to generate control data for controlling said at least one machine to manufacture said particular electrical device;

transmitting said control data to said at least one machine;

receiving real-time information concerning the manufacture of said particular electrical device from said at least one machine; and

updating said transactional data in said ERP server to reflect said received real-time information.

(9) Evidence Appendix

-Empty-

(10) Related Proceedings Appendix

-Empty-

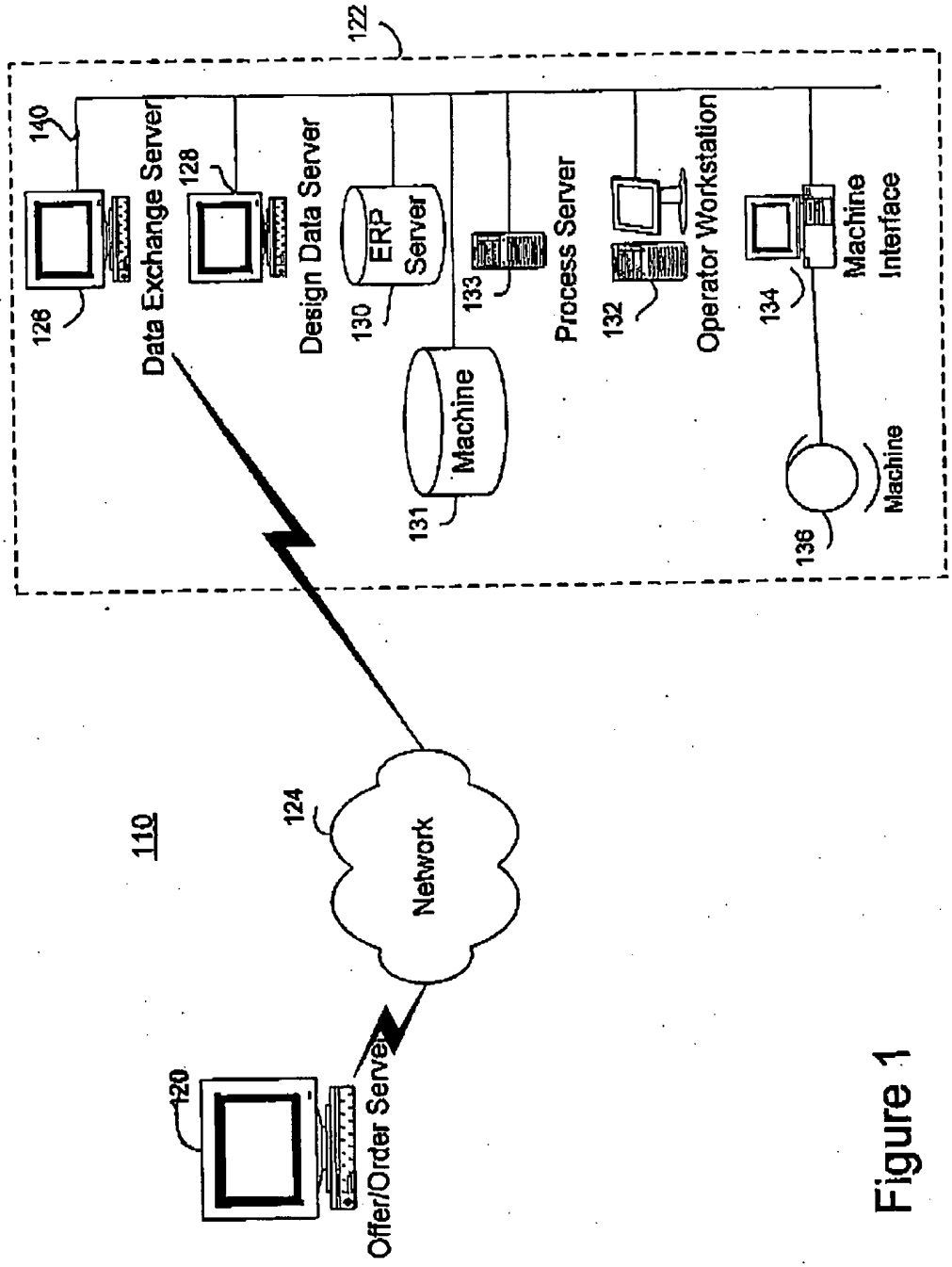
122
140
128
Data Exchange Server
128
Design Data Server
ERP Server
130
133
Process Server
132
Operator Workstation
134
Machine Interface
Machine
131
Machine
136
110
124
Network
120
Offer/Order Server

Figure 1

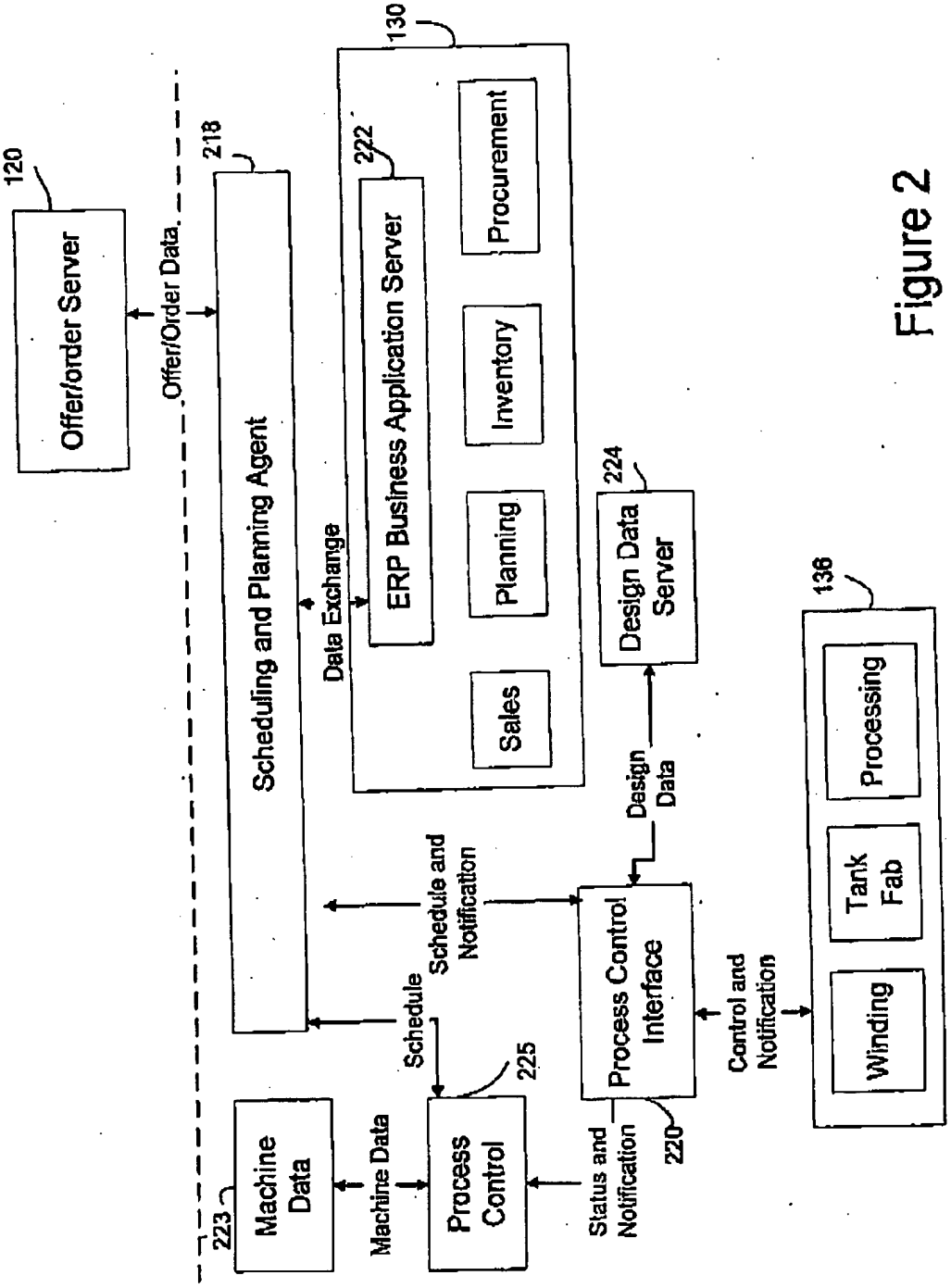
120
Offer/order Server
Offer/Order Data
218
Scheduling and Planning Agent
130
222
ERP Business Application Server
Procurement
Inventory
Planning
Sales
Data Exchange
224
Design Data Server
Design Data
Schedule and Notification
Schedule
Process Control Interface
Control and Notification
136
Processing
Tank Fab
Winding
225
Process Control
Machine Data
223
Machine Data
Status and Notification
220

Figure 2